



**SABINSA**

PAID CONTENT

# THE POWER OF PARTNERSHIPS

## **Ingredient stories: A transparent journey, field to shelf**







In a spotless Sabinsa quality testing lab in Payson, Utah, hulking state-of-the-art chromatograph machines quietly hum, assessing the chemical bonds of ingredients sampled from every step of the supplement manufacturing process. For more than 30 years as a global ingredient supplier and manufacturer, Sabinsa Corporation, and its parent company Sami-Sabinsa Group Ltd., have analyzed millions upon millions of chemical bonds. The bond, however, that may be most critical to Sabinsa's success can't be identified by even the best chromatograph: the partnership between supplier and brand.

While developing rock-solid relationships with brand partners has always been a priority for Sabinsa, consumers' increasing demand for transparency makes the relationship between brand and supplier even more important. "What it really comes down to is trust," says Shaheen Majeed, president worldwide, Sabinsa. Trust between supplier and brand leads to extraordinary products that grow confidence—and loyalty—between brand and consumer. Here's a look at three leading Sabinsa ingredients and brand partners who formulate with them, that do exactly that.



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## Curcumin C3 Complex®

Things were absolutely golden for Darren Rude. The Nutrawise CEO had a new Youtheory turmeric product he was beyond excited about. He had contracts with Costco and Sam's Club. He had gleaming, brand new, sophisticated German machines to manufacture the tablets and capsules. What he also had—a few weeks before the product was slated to hit the market—was clumps. The Curcumin C3 Complex powder was clogging up the lines, slamming the brakes on production.

He called the German experts—who were completely baffled by the C3 clogging.

Rude was not a happy man.

He called Shaheen Majeed.

"It was not an easy call," says Majeed, with a smile, years later.

"What people don't realize is that Mother Nature does not necessarily conform herself to fine German machinery," says Majeed. "The Nutrawise team wants the best, and we love them for that." But in this case, the best machines threw a wrench in the process.

"The high-volume output levels of Darren's new machines were creating so much friction that the curcuminoids molecules in the Curcumin C3 Complex powder got all jumbled up, clogging and clumping the machine." The German machine experts had never imagined anything

like turmeric running through their stainless-steel beauties. Fortunately, Sabinsa had.

"We've been doing this for decades," says Majeed. Dealing with herbal products that have variation from season to season rather than synthetic compounds requires extensive production knowledge. Botanicals do not always behave as expected. "Often there are pre-process steps a supplier or the contract manufacturing center will have to take in order for these natural materials to pass through the machine and fill a capsule or compress into a tablet."

Majeed called on the head of Sabinsa's Utah facility, an engineer who has worked with the company's botanical products for 15 years. "Knowing the specific properties of our turmeric and what worked in our factories, he ran through different scenarios with the Nutrawise machinery. Then, we were able to identify, produce and send material that would work on their new manufacturing equipment without any issues."

Sabinsa constantly works with contract manufacturers to make the manufacturing process easier. Supplying top quality material on-time goes without saying, says Majeed. "What most suppliers are often unaware of is how we can make their process so much easier." By nature, many herbal ingredients don't cooperate when pressured into large machinery. Often, a higher bulk density material is required. "We can do that right from our factories," says Majeed. "We can also make ingredients more water soluble, or less fluffy, and provide other commonly needed intermediate steps." This makes the contract manufacturer's job simpler, cutting production time and cost because it doesn't have to be shipped somewhere else for processing. For example, they created a high-density grade version of C3 Complex for Nature's Sunshine to use in the company's manufacturing to avoid any weight variability in the finished capsules. Sabinsa worked extensively with contract manufacturer Santa Cruz Nutritional to develop the first curcumin gummies.

While Majeed's conversation with a frustrated Rude was not an easy one, Majeed says he's





very thankful for it. “He was understandably upset, but I’d rather have that than a customer who dumps a supplier or an ingredient or a product because they don’t understand how to make it happen, or don’t want to have the conversations to figure it out. Everyone—the supplier, the brand and the consumer—benefits from this kind of partnership.”

Sabinsa helped Nutrawise build a rockstar product—and cutting-edge facility walls along the way. Manufacturing turmeric turns walls yellow. Wash it with water, and “you’re doomed,” says Majeed. “The potent yellow-orange pigment naturally occurring in turmeric suddenly becomes a permanent redish color on your floor and walls. It’s quite pretty, but not cGMP compliant.”

“So, we needed a wall for turmeric rooms that wouldn’t absorb water,” says Rude. “Within a few months, Sabinsa developed and tested three different walls and gave us the ones that worked best.”

“This is definitely the best business partnership for raw materials I’ve ever had,” says Rude. “They’re our partner, not just a vendor.”

That partnership was tested from the very beginning, with Nutrawise’s very first—very big—C3 Complex order. “We needed about 10,000 farmers at 10 acres a piece,” says Rude. “We had the go-ahead from Sam’s Club and Costco—and with those two retailers we



needed to make sure we had someone who was able to supply us.” And Sabinsa did.

Sabinsa delivered beyond expectation during COVID-19 as well, says Rude. “Somehow, just before the Prime Minister of India shut down even essential businesses, Sabinsa was able to ship us enough C3 Complex to keep us going through September. I couldn’t believe it. We were getting truckloads of turmeric and storing it in buildings in Orange County. We never ran out.”

“With Sabinsa, we feel stable,” he says. “We are the biggest bottler of turmeric in the world and have grown tremendously. They continue to grow with us and never run out of product.” When he began considering adding a turmeric ingredient to Youtheory, it was the clinical science behind C3 Complex that first lured Darren Rude to Sabinsa as a supplier. Sabinsa’s saffron-hued ingredient is the “gold standard in curcumin,” he says, reflecting on the beginning of the companies’ turmeric relationship.

The science-driven evolution of C3 Complex echoes the history of Sabinsa itself. Shaheen Majeed’s father, Muhammed Majeed, Ph.D, an Indian-born, U.S.-educated industrial pharmacist who’d worked at Pfizer, launched Sabinsa as a generic pharmaceuticals company. But when a major bribery and corruption scandal at FDA halted generic drug approval in 1989, he switched gears. He turned to the Indian plants that anchor the region’s ancient healing tradition. He pioneered the introduction of 100 standardized botanical extracts, applying

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modern research methods to the world's oldest healthcare system—Ayurveda.

In the beginning, Sabinsa supplied the market with basic ground turmeric root, among other ingredients. However, in larger quantities in storage and transit, problematic microorganisms multiply rapidly in the turmeric. Dr. Majeed headed to the lab to discover what made turmeric tick and how he could better deliver it. In a move that revolutionized the turmeric supplement industry, he standardized the curcuminoids in turmeric to 95% using the three main active constituents in the plant and delivered an extract for the first time. The extract outperformed ground turmeric. And, it needed no treatment to prevent microorganism growth in transit and storage. Researchers began requesting it, because with the standardization they could finally isolate their findings and attribute their research clinically.

BioPerine, a natural bioavailability enhancer, boosts the power of the curcuminoids in C3 Complex. Made from the fruits of the pepper plant, also cultivated in India, BioPerine has been found to enhance absorption of nutrients by at least 30% (bioperine.com). Research has shown it increases absorption of not only curcumin, but of other herbal extracts, lipid and water soluble vitamins, antioxidants, amino acids and minerals. It is the only product made of piperine to obtain a patented status for its ability to increase the bioavailability of nutritional compounds and the only to have undergone clinical studies to substantiate its safety and efficacy for nutritional use.

With more than 150 research papers and 79 clinical studies published in peer-reviewed journals, Curcumin C3 Complex is the number one clinically researched curcumin brand in the world and the number one curcumin extract brand partner to the Universities and Research centers. It is the herbal ingredient of choice for inflammation treatment research at The University of Texas MD Anderson Cancer Center, and Alzheimer's disease at UCLA. Hundreds of brands formulate with C3 Complex to deliver benefits including antioxidant, anti-inflammatory and immune support.

C3 Complex's proven quality can be traced back to India's rich red soil and the rows of lush green, chest-high turmeric plants that stripe it in rows across land cultivated by Sabinsa-contracted farmers. Sabinsa's founder, Muhammed Majeed, Ph.D, is the son of a farmer who died young. Fair treatment of farming families is core to the company's mission. The company contracts with more than 6,000 farmers across India who work more than 40,000 acres of land. To help them succeed, Sabinsa introduced new farming technologies, financed irrigation systems, championed sustainable, holistic agriculture methods, and is a leader in fighting adulteration.

The company commits to paying farmers top dollar—no matter what the weather delivers. "We set a price at the beginning of the season and make sure they get paid, even if they have zero percent output," says Shaheen Majeed. "Because if these farmers fail to meet output goals, it is usually because of Mother Nature, and not their fault."



**6,000+**  
farmers across India

**40,000+**  
acres of land worked



As the partnership between Nutrawise and Sabinsa developed, Rude, his wife, Youtheory President Patty Rude, and Youtheory Chief Scientific Officer Nick Bitz, ND, spent time in India, getting a firsthand look inside the supply chain. “Darren had a vision of bringing a product to the consumer. He needed to know where the ingredients were coming from, clean ingredients...not cutting corners on any part of the product,” says Patty Rude.

Darren Rude explored the fields in India, pulling hefty turmeric plants up from the soil, while dodging free-grazing cows, to check their roots for signs of health. He talked to the co-op farmers and peeked in buildings with an eye out for stored pesticides. He toured Sabinsa’s manufacturing facilities and spoke with workers there as well.



Sabinsa supports not just the farmers, but the communities that grow its raw materials. In one remote village, after the Sabinsa team realized there was no school, they built one—along with roads that enabled a school bus to reach it. “Luckily, we found retired teachers who had come back to the village to settle down who quickly volunteered to help educate the young ones,” says Majeed. “We truly feel this benefit cannot be measured, but we know the loyalty garnered from this activity has gone a long way. The community will not be swayed by price fluctuations because the partnership we have runs deep. And it’s incredibly satisfying for us to help give these children the opportunity for a future with expanded opportunities.”



Sabinsa also supports farming communities by bringing in much-needed water. “For every Sabinsa water truck that goes into a farm, two go into the village,” says Rude.

When you see efforts like that, says Patty Rude, “making a difference in other peoples’ lives by making a product that helps other people, it’s just a really neat feeling.”



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Majeed. “Sabinsa is committed to creating a positive impact on farmers’ lives. This, in turn, guarantees a more dependable supply chain and raises the quality of life for everyone in the value chain—including consumers desiring natural, top quality products.”



## LactoSpore®

When Ziv Haklili, founder and managing partner of Scale Media, manufacturers of 1MD supplements, and Rob Carr, the company’s senior product development manager, set their sights in 2015 on formulating a “multivitamin for your gut,” they were looking for scientifically proven ingredients. “For us, for every product we produce, we first seek out solid science,” says Haklili. “We were looking specifically for probiotic strains with clinical data behind them and one of the ones that stood out, both because of its stability and because of its reputation, was Sabinsa’s LactoSpore.”

Sabinsa has been manufacturing the multi-patented probiotic preparation made from *Bacillus coagulans*, MTCC 5856 (earlier known to be *Lactobacillus sporogenes*) for over 20 years. The ingredient is backed by numerous rigorous human clinical studies. *Bacillus coagulans* MTCC 5856 are the only lactic acid-producing bacteria to form spores, or seeds. When activated in the stomach, spores germinate and proliferate in the intestine, producing the favored form of lactic acid [L(+)-lactic acid] that prevents the growth of pathogens, helping maintain a balanced gut microbiome. LactoSpore helps maintain



overall health, supporting the body's natural defenses to combat stress. It promotes a healthy digestive tract, and supports weight management and mood.\*

"Stability of probiotics is one of the greatest challenges faced by manufacturers while incorporating probiotics in any dosage form, as not all probiotics are room temperature shelf stable," says Majeed. "In fact, many have limited stability so handling was a headache for manufacturers and retailers. Another manufacturing challenge was calculating appropriate overages to ensure effective dosages in the end product."



Sabinsa solved these issues with LactoSpore, the "Original Stable Probiotic®." Unlike *Lactobacillus* bacteria, spore-producing *Bacillus coagulans* are extremely stable. The naturally protected spores remain dormant until they arrive safely in the intestinal tract to colonize and grow. An independent study conducted by university researchers showed that LactoSpore showed remarkable ability to survive gastric and intestinal conditions and then colonize the intestine.<sup>1</sup> The study showed an extraordinary 92% survival rate.

The spore-forming ability of LactoSpore allows the probiotic to survive at high and

low temperature and through the harsh environment of the human gut. This enables delivery under a wide range of conditions and through a broad spectrum of systems, surviving manufacturing, shipping and storage. This allows it to be used in a wide range of applications including functional foods, both baked and frozen, like Wellspring Industry Inc.'s Tutti Frutti Frozen Yogurt (the world's bestselling self-serve frozen yogurt), nutraceuticals, nutricosmetics and cosmeceuticals.

"Our product (BiomeMD) was pretty immediately a great success," says Carr. "It's helped hundreds of thousands of people and has been, for years, our best-selling product. I definitely think of all the strains within the product, the LactoSpore is one of the best and has been a big contributor to its success."

Sabinsa's team of scientists help brands formulate a wide range of products with LactoSpore—as they do for all of the company's ingredients. They worked with leading animal pharmaceutical manufacturer, Phoenix, Arizona-based Precision Science to develop and launch a LactoSpore chew for pets. They worked extensively with Vernon, California-based Star City Beverage, a nationwide manufacturer of natural, organic and specialty private label beverages, to



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develop Koe Kombucha, a canned beverage that can be stored at room temperature.

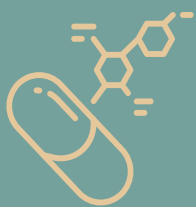
The Scale Media team had such a positive—and profitable—experience with Sabinsa, as an ingredient supplier for BiomeMD and other products that they decided to use the company to both provide the ingredients for and manufacture their testosterone-boosting supplement. “There’s such an advantage to manufacturing in just one location and not shipping out all over the place for different stages,” says Haklili, who notes the savings in time and money.

Having one company do everything also enhances transparency. At the Sabinsa facility, each batch of LactoSpore is inspected for sporulation and purity and standardized to 6 billion, 15 billion and 100 billion spores, depending on customer needs. Finished products are analyzed using identification tests for spore count and lactic acid producing capacity, stability and contamination. The company goes to great lengths to ensure the quality of the probiotics. During each step of processing, from fermentation to spray drying, the product is handled in a closed loop system to avoid any cross-contamination. A dedicated water purification system ensures water purity. Personnel on the premises are highly restricted to limit bio-load. The entire production area is classified under Class 100,000, which helps control the environment with a low level of dust, airborne microbes and aerosol particles using a filter of 0.3 microns.

**6 billion spores/g**

**15 billion spores/g**

**100 billion spores/g**



The quality and transparency of the ingredients and the ease of working with the company ensures Scale Media will remain partners with Sabinsa for the long term. In fact, the Sabinsa website is on their browser’s “favorites” list.



## DigeZyme®

Enzymes are biological molecules that catalyze complex reactions. In many ways, Sabinsa does, too. By developing quality ingredients, investing heavily in research and working closely with brands to formulate, source, manufacture and market, the company helps propel the complicated process of bringing a product to market. One way it does this is through research and personnel that keep the company—and its products—ahead of the curve.

More than a dozen years before “plant-based” topped lists of trends and manufacturers began packing products with proteins derived from everything from peas to potatoes, Sabinsa identified the need for, and value of, plant-based digestive enzymes to help consumers digest these foods. After all, you are not what you eat—you are what you digest.

“Sensing the opportunity long ago, Sabinsa developed the unique multi-enzyme complex, DigeZyme, a combination of five different enzymes each meant to serve different purposes,” says Majeed. Amylase breaks down carbohydrates such as starches, glycogen and polysaccharides. Cellulase breaks down cellulose and chitin in fibrous foods. Protease breaks down protein. Lactase breaks down lactose (milk sugar), helping manage lactose tolerance, and lipase breaks down fat molecules.

Plant-based enzymes are considered superior to animal-based enzymes because they’re unusually stable as they journey through the





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digestive tract. Because they're so efficient, they can be used at a lower dosage—a more economical option for manufacturers.

Rigorous clinical studies in human subjects substantiate DigeZyme's capacity to support digestive health and enhance the absorption of vitamins and minerals. And while the dynamic growth of the digestive health category—it has tripled in size in the last decade to reach \$2.96 billion in 2018 with sales forecast to reach \$3.9 billion by 2021, according to *NBJ*—provides exciting opportunities for manufacturers, DigeZyme's benefits go far beyond digestion. "Research indicates digestive enzymes may be helpful to immune function, joint and mood support and weight loss. This is an opportunity for the category to expand further and reach a broader audience."

One enormous section of that audience is sports nutrition consumers. DigeZyme has been evaluated clinically for its effectiveness in decreasing delayed onset muscle soreness (DOMS) from high-intensity eccentric exercise.<sup>2</sup> Its potential to appeal to millions of achy boomer gym rats, weekend warriors and over ambitious cross-fitters, in addition to more serious athletes, is an exciting opportunity to tap into the \$45 billion (2019) sports nutrition and weight management category.

Brand partners value this kind of research investment. "Sabinsa invests substantially in research to support the health benefits for many of their ingredients and guide efficacious dosing, thereby supporting the mission of Jarrow

Formulas to formulate dietary supplements based on sound scientific evidence," says Ara Soghomonian, senior director of marketing for long-time Sabinsa partner Los Angeles, California-based Jarrow Formulas.

"Since the beginning, our mission at Jarrow Formulas has been to create science-backed formulations," he says. "A key component of our success comes from selecting the right ingredient supplier for formulation ingredients. Research, scientific data, and a like-minded philosophy are vital attributes that we seek in our key partnerships with ingredient suppliers."

Sabinsa's world-class scientists are available to help brands formulate finished products in ways that deliver the maximum benefit to consumers.

"We had several questions on DigeZyme stability and reactivity in our formula and Sabinsa was there with the needed information to put our mind's at ease," says Cecile Kehoe, Dream Brands sales manager. The company has "great, quality ingredients and talented, informative people to work with. Sabinsa has always been transparent with their information. Their ingredient offerings are excellent. And their customer service is exceptional."

When a consumer gets a well-made product that delivers the benefits they seek, brand loyalty is earned and everyone profits in the long term, says Majeed. To make those products, Sabinsa is selective about the manufacturers it partners with. "We evaluate and look for brand partners that will not cut corners," he says. A common shortcut some companies take to save money is to buy, for



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example, one kilo of a Sabinsa ingredient and 99 kilos of a generic, often low-quality ingredient, to still have the benefit of the Sabinsa reputation on the label. "If this is the case," says Majeed, "we're out. We're passionate about delivering science-backed ingredients of the highest quality and seek partners who feel the same way—brands that are dedicated to using these ingredients in the most efficacious formulas."

Manufacturing partners who share that passion often want to see Sabinsa's manufacturing facilities and farms first-hand. One Japanese brand partner sends experts to stand side-by-side Sabinsa employees, noting the timing, temperature and pressure of the production process as they produce their exclusive ingredients. "We bring the same reliability, ingenuity and transparency to contract manufacturing as we do for our raw materials," says Majeed.

"While we earn certifications for passing third party audits, the real achievement is walking our customers through our factory, explaining the various procedures we follow and taking in and accurately fulfilling their requests, so that their specifications are met for a final product they are proud to sell," says Majeed. He says welcoming partners to Sabinsa farms and labs is "a joy."

What visitors to Sabinsa's state-of-the-art biotechnology manufacturing unit in India find are experienced experts overseeing processes that guarantee the highest quality of enzymes.

The principal scientist in charge of the facility, Arumugam Sivakumar, PhD, has over 30 years of biotech experience. Balmurali Krishna, who supervises the production of DigeZyme, has been with Sabinsa since 1994.



DigeZyme's enzymes are derived from cultured bacteria and fungus using superfine filters and purification technology which removes the microbial residues from the extracts. Then, they're blended. Quality checks confirm the identity of the components, their activity and that they are free from contaminants. Further testing verifies stability. In addition to the FDA, third party inspectors inspect the facility for regulatory compliance.



"We don't compromise on our research, on our production or even our marketing," says Majeed. "We want our customers to get the best and be at their best when providing to their consumers. With this in mind, we make ourselves available to all aspects of our business, be it in the supply of our raw materials, standing with me on the farm or at the contract manufacturing line, observing our operations close-up."



This commitment to excellence—and transparency—up and down the supply chain has been recognized throughout the industry. *Nutrition Business Journal* awarded the company its Supply Chain Transparency Award. Sabinsa's parent company, Sami Labs Ltd., received *The Economic Times'* Business Leaders 2019 Award for Most Trusted Nutraceutical Company. The publication is the leading financial daily in India and among the world's top three daily newspapers.

"Sabinsa really, truly does operate from farm to capsule," says Douglas Kalman, PhD, RD, vice president, scientific affairs at Nutrasource, a clinical research company. "I can say that because I've visited their operations in India, including the farms, processing facilities and analytical labs. I saw firsthand the chain of custody that Sabinsa oversees daily, which





allows them to have better overall quality control than most companies.”

“The key to great ingredients is a reliable, quality supply chain, which is all about relationships,” says Muhammed Majeed. Relationships are also what brings great products to market. They are what drives innovation and excellence every step of the way, from field to shelf. As consumers increasingly demand more transparency from companies and products, the relationship

between brand and supplier has become even more important. Cultivating strong partnerships is as critical to growing consumer trust as cultivating healthy plants and microbes—all things Sabinsa has been doing successfully for decades. 🌱



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\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.